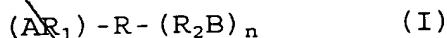


CLAIMS

*Sub B2*  
*resulting from*  
~~in that it is the result of the reaction between at~~  
1 least one monofunctional monomer satisfying the  
5 following general formula I:



in which:

10

- n is an integer greater than or equal

to 2, ~~preferably between 2 and 10~~

~~(limits inclusive),~~

15

-  $R_1$ ,  $R_2$  may be identical or different and  
represent a covalent bond or an  
aliphatic, arylaliphatic, aromatic or  
alkylaromatic hydrocarbon radical,

20

- R is a linear or branched aliphatic  
radical, a substituted or unsubstituted  
cycloaliphatic radical, a substituted  
or unsubstituted aromatic radical  
possibly comprising several aromatic  
rings and/or hetero atoms, or a  
polymeric chain possibly containing  
hetero atoms,

25

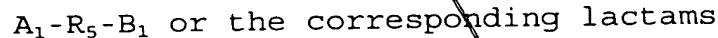
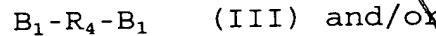
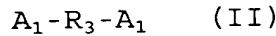
- A represents the amine or amine salt  
functional group, or the acid, ester,  
acid halide or amide functional group,

*Sub B2*

- B represents the amine or amine salt functional group when A represents an acid, ester, acid halide or amide functional group, and an acid, ester, acid halide or amide functional group when A represents an amine or amine salt functional group,

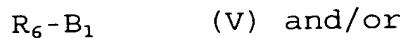
5 and at least one of the difunctional monomers of the following formulae II to IV with, optionally, some of  
10 the monofunctional monomers of the following formulae V or VI, or with a prepolymer obtained from at least one difunctional monomer of the following formulae II to IV and, optionally, at least one monofunctional monomer of the following formulae V or VI,

15 - the difunctional monomers satisfying the following general formulae:



20 (IV)

- the monofunctional monomers satisfying the following general formulae:



25 in which

*Sub B2*

~~-A<sub>1</sub>, B<sub>1</sub> represent, respectively, an acid, ester or acid chloride functional group and an amine functional group or an amine salt, -R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> represent substituted or unsubstituted, aromatic, linear or branched, alkyl hydrocarbon radicals or alkylaryl, arylalkyl or cycloaliphatic radicals possibly including unsaturated groups.~~

5

2. Copolyamide according to Claim 1,  
 10 *wherein* ~~characterized in that~~ the radical R is an aromatic radical.

*Sub B3*

3. Copolyamide according to Claim 1 ~~or 2~~,  
*wherein* ~~characterized in that~~ the molar ratio of the multifunctional monomers of formula I to the sum of the 15 difunctional monomers of formulae II, III, IV and monofunctional monomers of formulae V and VI is between 0.01 % and 5 %, ~~preferably between 0.05 % and 1 %~~.

4. Copolyamide according to ~~one of Claims 1 to 3~~, *wherein* ~~characterized in that~~ the monomer of formula I is 20 a compound in which A represents the amine functional group, B represents the acid functional group, n is equal to 2, R represents an aromatic radical and R<sub>1</sub> and R<sub>2</sub> represent a covalent bond.

5. Copolyamide according to ~~one of Claims 1 to 4~~, *wherein* ~~characterized in that~~ the monomer of formula I is 25 5-aminoisophthalic acid.

*Claim 1* 6. Copolyamide according to ~~one of claims 1 to 3, characterized in that~~ the monomer of formula I is 6-aminoundecanedioic acid.

*Claim 1* 7. Copolyamide according to ~~one of the preceding claims, characterized in that it has a melt flow index (MFI) of less than 5 g/10 minutes (measured at 275°C under a load of 2160 g).~~

*Claim 1* 8. Copolyamide according to ~~one of the preceding claims, characterized in that it has a~~ molecular-mass distribution index D of greater than 2.

*Sub 34* ~~Claim 1~~ 9. Process for manufacturing a copolyamide according to ~~one of the preceding claims, characterized in that it consists in adding, into the reaction mass containing difunctional monomers of formulae II to IV and, optionally, monofunctional monomers of formula V or VI, leading to a linear polyamide, a predetermined amount of a multifunctional monomer of formula I and then in carrying out the polycondensation under the temperature and pressure conditions used for the polymerization of the said linear polyamide.~~

10. Process for manufacturing a copolyamide according to ~~one of claims 1 to 8, characterized in that it consists in synthesizing a prepolymer of a linear polyamide from one or more monomers of formulae II to IV and, optionally, monofunctional monomers of formula V or VI, in adding, to this said prepolymer in the solid state or in the melt, a predetermined amount~~

of polyfunctional monomer and then ~~in~~ making ~~the~~ said polyfunctional monomer react with ~~the~~ said prepolymer either in the solid state or in the melt.

11. Process according to Claim 10,  
5 ~~wherein~~ characterized in that an amidification or polycondensation catalyst is added with the polyfunctional monomer.

12. Composition comprising, as matrix, at least one copolyamide according to ~~one of Claims 1 to 8~~  
10 and other components chosen from the group comprising reinforcing fillers, filling fillers, antioxidants, stabilizers, pigments, colorants, fire retardants and moulding aids.

*>Add A1*